What is claimed is:

1. A hand position detecting apparatus for arranging a light emitting element and a light receiving element as well as a reflecting face to interpose an indicator wheel a rotational position of which is to be detected therebetween, making light from the light emitting element skewedly incident on the reflecting face via an opening of the indicator wheel for passing incident light when the indicator wheel reaches a predetermined position and detecting reflected light skewedly reflected by the reflecting face by the light receiving element via an opening of the indicator wheel for passing the reflected light, said hand position detecting apparatus comprising:

rotational position detecting means for detecting a rotational position maximizing a light receiving amount within a rotational range of the indicator wheel having the light receiving amount equal to or higher than a lowest reference level by which the light receiving element can be regarded to receive the light emitted from the light receiving element and reflected by the reflecting face.

2. A hand position detecting apparatus according to Claim 1, wherein the rotational position detecting means comprises:

threshold level adjusting means for adjusting a threshold level by which the light receiving amount at the light receiving element is to be evaluated within a range of a plurality of

reference levels having different magnitudes;

received light determining means for determining whether the light receiving amount at the light receiving element is equal to or higher than the lowest reference level in the plurality of reference levels adjusted by the threshold level adjusting means at each time at which the indicator wheel reaches a new rotational position;

rotational position / received light level detecting means for determining which reference level in the plurality of reference levels adjusted by the threshold level adjusting means is lower than the light receiving amount when a determination stating that the light receiving amount at the light receiving element is equal to or higher than the lowest reference level is carried out by the received light determining means, and to register the result to rotational position / received light level registering means along with a rotational position data of the indicator wheel providing the light receiving amount; and

target position determining means for selecting a rotational position data in correspondence with a highest received light level in the received light level registered to the rotational position / received light level registering means as a target position data to register the data to the target position data registering means in a case in which at least one set of rotational position / received light level

data is registered to the rotational position / received light level registering means and in which a determination stating that the light receiving amount at the light receiving element is smaller than the lowest reference level is carried out by the received light determining means.

3. A hand position detecting apparatus according to Claim 1, wherein the rotational position detecting means comprises:

threshold level adjusting means for adjusting a threshold level by which a light receiving amount at the light receiving element is to be evaluated within a range of a plurality of reference levels having different magnitudes;

received light determining means for determining whether the light receiving amount at the light receiving element is equal to or higher than a lowest reference level in the plurality of reference levels adjusted by the threshold level adjusting means at each time at which the indicator wheel reaches a new rotational position;

rotational position / received light level detecting means for determining which reference level in the plurality of reference levels adjusted by the threshold level adjusting means is lower than the light receiving amount when a determination stating that the light receiving amount at the light receiving element is equal to or higher than the lowest reference level is carried out by the received light determining --

means, and to register the result to the rotational position / received light level registering means along with a rotational position data of the indicator wheel providing the light receiving amount;

a highest received light level position number determining portion for determining a number of rotational position data in correspondence with a highest received light level in the received light levels registered to the rotational position / received light level registering means in a case in which at least one set of rotational position / received level data is registered to the rotational position / received light level registering means and in which a determination stating that the light receiving amount at the light receiving element is smaller than a lowest reference level, and storing positions of an upper limit and a lower limit in positions of a highest received light level to an upper limit / lower limit position storing portion when the number is plural;

reciprocal movement controlling means for driving indicator wheel driving means for reciprocally moving the indicator wheel within an angular range prescribed by the upper limit position and the lower limit position stored to the upper limit / lower limit position storing means; and

designated target position data detecting means which is brought into a state of capable of receiving a position designating signal during the reciprocal movement and registers

a position of the indicator at a time point of receiving the position designating signal to target position data registering means as a target position data.

4. A hand position setting apparatus including the hand position detecting apparatus according to Claim 2, indicator wheel driving means for incrementally rotating the indicator wheel and indicator wheel drive controlling means for driving the indicator wheel driving means for positioning the indicator wheel at a rotational position in correspondence with the target position data registered to the target position data registering means.

5. A hand position setting apparatus including the hand position detecting apparatus according to Claim 3, indicator wheel driving means for incrementally rotating the indicator wheel and indicator wheel drive controlling means for driving the indicator wheel driving means for positioning the indicator wheel at a rotational position in correspondence with the target position data registered to the target position data registering means.

6. An electronic timepiece including the hand position setting apparatus according to Claim 4.

7. An electronic timepiece including the hand position setting apparatus according to Claim 5.

8. A hand position detecting apparatus according to Claim 1, further comprising:

rotational position detecting means for detecting a time period of reaching the light receiving amount equal to or higher than a lowest reference level by which the light receiving element can be regarded to receive the light emitted from the light emitting element and reflected by the reflecting face.

9. A hand position detecting apparatus according to Claim 1, wherein a magnitude of a threshold level by which the rotational position detecting means determines the light receiving amount of the light receiving element stays the same and the rotational position detecting means comprises:

means for changing a time period of detecting an output of the light receiving element;

received light determining means for determining whether the output of the light receiving element is equal to or higher than the threshold level each time at which the indicator wheel reaches a new rotational position;

rotational position / detectable time period registering means for determining by which detection time period in a plurality of detection time periods adjusted by means for adjusting the detection time period of the output of the light receiving element the rotational position is detectable when a determination stating that the output of the light receiving element is equal to or higher than the threshold level is carried out by the received light determining means and registering the detectable time period along with a rotational position

data of the indicator wheel; and

target position determining means for selecting a rotational position data in correspondence with a shortest detectable time period as a target position data in the detectable time periods registered to the rotational position / detectable time period registering means to register the selected one to target position data registering means in a case in which at least one set of rotational position / detectable time period data is registered in the rotational position / detectable time period registering means and in which a determination stating that the detected time period is set to be longest and the output of the light receiving element is smaller than the threshold level.

10. A hand position detecting apparatus according to Claim 1, wherein a magnitude of a threshold level by which the rotational position detecting means determines a light receiving amount of the light receiving element stays the same and the rotational position detecting means comprises:

means for adjusting a detection time period of the light receiving element;

received light determining means for setting the detection time period of the light receiving element by the detection time period adjusting means and determining whether the output of the light receiving element is equal to or higher than the threshold level each time at which the indicator wheel

reaches a new rotational position;

rotational position / detectable time period registering means for determining which detection time period is the detection time period in a plurality of detection time periods adjusted by the detection time period adjusting means of the light receiving element when a determination stating that the output of the light receiving element is equal to or higher than the threshold level is carried out by the received light determining means and registering a detectable time period of the output of the light receiving element along with a rotational position data of the indicator wheel; and

target position determining means for constituting detection time period changing means for shortening the detectable time period of the output of the light receiving element in a case in which at least one set of rotational position / detectable time period data is registered in the rotational position / detectable time period registering means and in a case in which there are a plurality of locations of rotational positions at which the output of the light receiving element is equal to or higher than the threshold level and selecting a rotational position data in correspondence with a shortest detectable time period in the registered rotational position / detectable time periods as a target position data to register the selected data to target position data registering means.

11. A hand position detecting apparatus according to

Claim 8, further comprising means for controlling to drive the light emitting element synchronizing a timing of detecting the output of the light receiving element and time of finishing to drive the light emitting element.

12. A hand position detecting apparatus according to Claim 9, further comprising means for controlling to drive the light emitting element synchronizing a timing of detecting the output of the light receiving element and time of finishing to drive the light emitting element.

13. A hand position detecting apparatus according to Claim 10, further comprising means for controlling to drive the light emitting element synchronizing a timing of detecting the output of the light receiving element and time of finishing to drive the light emitting element.

14. A hand position setting apparatus including the hand position detecting apparatus according to Claim 8, indicator wheel driving means for incrementally rotating the indicator wheel and indicator wheel drive controlling means for driving the indicator wheel driving means for positioning the indicator wheel to a rotational position in correspondence with a target position data registered in the target position data registering means.

15. A hand position setting apparatus including the hand position detecting apparatus according to Claim 9, indicator wheel driving means for incrementally rotating the

indicator wheel and indicator wheel drive controlling means for driving the indicator wheel driving means for positioning the indicator wheel to a rotational position in correspondence with a target position data registered in the target position data registering means.

16. A hand position setting apparatus including the hand position detecting apparatus according to Claim 10, indicator wheel driving means for incrementally rotating the indicator wheel and indicator wheel drive controlling means for driving the indicator wheel driving means for positioning the indicator wheel to a rotational position in correspondence with a target position data registered in the target position data registering means.

17. A hand position setting apparatus including the hand position detecting apparatus according to Claim 11, indicator wheel driving means for incrementally rotating the indicator wheel and indicator wheel drive controlling means for driving the indicator wheel driving means for positioning the indicator wheel to a rotational position in correspondence with a target position data registered in the target position data registering means.

18. A hand position setting apparatus including the hand position detecting apparatus according to Claim 12, indicator wheel driving means for incrementally rotating the indicator wheel and indicator wheel drive controlling means

for driving the indicator wheel driving means for positioning the indicator wheel to a rotational position in correspondence with a target position data registered in the target position data registering means.

19. A hand position setting apparatus including the hand position detecting apparatus according to Claim 13, indicator wheel driving means for incrementally rotating the indicator wheel and indicator wheel drive controlling means for driving the indicator wheel driving means for positioning the indicator wheel to a rotational position in correspondence with a target position data registered in the target position data registering means.

20. An electronic timepiece including the hand position setting apparatus according to Claim 14.

21. An electronic timepiece including the hand position setting apparatus according to Claim 15.

22. An electronic timepiece including the hand position setting apparatus according to Claim 16.

23. An electronic timepiece including the hand position setting apparatus according to Claim 17.

24. An electronic timepiece including the hand position setting apparatus according to Claim 18.

25. An electronic timepiece including the hand position setting apparatus according to Claim 19.

26. A hand position detecting apparatus comprising:

an indicator wheel to be detected a rotational position;

a light emitting element to irradiate light to the indicator wheel;

a reflecting face to reflect the light;

a light receiving element to make light from the light emitting element skewedly incident on the reflecting face via an opening of the indicator wheel for passing incident light when the indicator wheel reaches a predetermined position and detecting reflected light skewedly reflected by the reflecting face by the light receiving element via an opening of the indicator wheel for passing the reflected light;

wherein the indicator wheel is arranged between the light emitting element, the light receiving element and the reflecting face; and

a rotational position detector to detect a rotational position maximizing a light receiving amount within a rotational range of the indicator wheel having the light receiving amount equal to or higher than a lowest reference level by which the light receiving element can be regarded to receive the light emitted from the light receiving element and reflected by the reflecting face.